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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,143

07/29/2003

David J. Dougherty

25-15 US (78295)

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02/21/2006

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EXAMINER

KANG, JULIANA K

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,143

Applicant(s)

DOUGHERTY ET AL. 

Examiner

Juliana K. Kang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/13/05 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The request filed on 12/13/05 for a Request for Continued Examination (RCE) under 37 CFR 1.114 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al (U.S. Patent 6,885,795 B1) and further in view of Rajarajan et al (IEEE, NOVEL POLARIZATION-INDEPENDENT OPTICAL BENDS FOR COMPACT PHOTONIC INTEGRATED CIRCUITS, previously applied upon).

Regarding claims 1, 2 and 4, Hsu et al disclose a planar optical waveguide tap in which polarization dependent loss is substantially compensated from an input end to an output end comprising: a first optical waveguide (16) for supporting a first polarization mode and a second polarization mode; a second optical waveguide (12) having at least a coupling portion adjacent and proximate to the first optical waveguide for receiving a portion of light launched into the first optical waveguide into the second optical waveguide (see column 8 lines 62-65), said coupling portion coupling light in a substantially polarization dependent manner (see column 9 lines 1-3), such that the first polarization mode coupled

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significantly more strongly than the second polarization mode into the second optical waveguide from the first optical waveguide, so that light of the second polarization received into the second optical waveguide from the first optical waveguide experiences higher optical loss through said coupling portion than light of said first polarization mode (see column 9 lines 10-14); and the second optical waveguide includes a light absorbing medium (14) that is placed distinct from the coupling portion and positioned between the coupling portion and the output end to compensate the effects of polarization dependent loss associated with the tap waveguide (see Fig. 10B, column 4 lines 16-35). However, Hsu et al do not teach a bend portion that compensates the polarization dependent loss. Rajarajan et al teaches polarization dependent loss can be adjusted by a bent waveguide causing different losses for TE or TM polarization radiation depending on the bending radius of the waveguide. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of Rajarajan et al of having curved waveguide in Hsu et al to compensate the polarization dependent loss by increasing either TE or TM loss.

Regarding claim 3, Hsu et al also teach compensating the PDL associated with the tap waveguide (second optical waveguide) by reducing the TM mode more than TE mode (see column 11 lines 21-23).

Response to Arguments

4. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chin et al (U.S. Patent 6,636,669 B1) teach a direction coupler that can be either TM specific or TE specific depending on the width configuration of the waveguides.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (571) 272-2348. The examiner can normally be reached on Monday through Thursday 8:00 AM-2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JULIANA KANG
PRIMARY EXAMINER**



2/15/06